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Substitute for form 1449/PTO

SECOND SUPPLEMENTAL INFORMATION DISCLOSURE STATEMENT BY APPLICANT

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Complete Application Number	if Known
Application Number	10/698,924
Filing Date	October 31, 2003
First Named Inventor	K. Raja Reddy
Art Unit	1626
Examiner Name	Taofiq A. Solola
Attorney Docket Number	2358.0180003/RWE/AES

			U.S. PATENT DO	CUMENTS	-
Examiner Initials	Cite No.'	Document Number	Publication Date	Name of Patentee or Applicant of Cited Document	Pages, Columns, Lines, Where Relevant Passages
111111212	10.	Number-Kind Code ^{2 (If Known)}	MM-DD-1111	Applicant of Cited Document	or Relevant Figures Appear
70	AD	3,018,302	01/23/1962	Bielefeld et al.	
Ī	AE	3,116,282	12/31/1963	Hunter	
	AF	4,440,740	04/03/1984	Fix et al.	
	AG	4,952,740	08/28/1990	Juge et al.	
	AH	5,663,159	09/02/1997	Starrett Jr., et al.	
	Al	6,752,981	06/22/2004	Erion et al.	
	AJ	2003/0229225 A1	12/11/2003	Reddy et al.	
	AK	2003/0225277 A1	12/04/2003	Kopcho et al.	-
1,	AL	2004/0092476 A1	05/13/2004	Erion et al.	
1	AM	2005/0288240 A1	12/29/2005	Erion et al.	
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Examiner Initials*	Cite No. ¹	Foreign Patent Document Country Code ¹ Number ⁴ Kind Code ¹ (if known)	Publication Date MM-DD-YYYY	Name of Patentee or Applicant of Cited Document	Pages, Columns, Lines, Where Relevant Passages or Relevant Figures Appear	Té
70	AN .	EP 0161955 A1	11/21/1985	Merck & Co., Inc.		[
	AO .	EP 0180276 A1	05/07/1986	Oce-Andeno B.V.		
	AP	EP 0338372 A2	10/25/1989	American Cyanamid Co.		
	AQ	EP 0353692 B1	10/04/1995	Nissan Chemical Ind., Ltd.		-
	AR	EP 0481214 B1	06/24/1998	Inst. Organic Chem. & Biochem. Acad. Sci. Czech. Repub.		
	AS	WO 91/19721 A1	12/26/1991	Glazier		
	AT	WO 96/01267 A1	01/18/1996	Takeda Chemical Ind., Ltd.		
	AU	WO 97/03679 A1	02/06/1997	Cephalon, Inc.		-
$\sqrt{}$	AV	WO 00/52015 A2	09/08/2000	Metabasis Therapeutics, Inc.		1

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Examiner Signature A Solola	Date Considered 1-31-06
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Under the Paperwork Reduction Act of 1995 espond to a collection of information unless it contains a valid OMB control number. Substitute for form 1449/PTO Complete if Known 10/698,924 Application Number SECOND SUPPLEMENTAL Filing Date October 31, 2003 INFORMATION DISCLOSURE K. Raja Reddy First Named Inventor STATEMENT BY APPLICANT 1626 Art Unit (Use as many sheets as necessary) Taofiq A. Solola **Examiner Name** 2358.0180003/RWE/AES Sheet 1 of 10 Attorney Docket Number

		NON PATENT LITERATURE DOCUMENTS		
Examiner Initials*	Cite No. ¹	Include name of the author (in CAPITAL LETTERS), title of the article (when appropriate), title of the item (book, magazine, journal, serial, symposium, catalog, etc.), date, page(s), volume issue number(s), publisher, city and/or country where published	T ²	
AW ALEXANDER, P., et al., "Preparation of 9-(2-Phosphonomethoxyethyl) Adenine Esters as Potential Prodrugs," Collect. Czech. Chem. Commun. 59:1853-1869, Czech Academy of Sciences, Institute of Organic Chemistry and Biochemistry (1994)				
	AX	AMIN, D., et al., "1-Hydroxy-3-(methylpentylamino)-propylidene-1,1-bisphosphonic Acid as a Potent Inhibitor of Squalene Synthase," <i>ArzneimForsch/Drug Res.</i> 46:759-762, Blackwell Publishing, Inc. (1996)		
	AY	ARNÉR, E.S.J. and ERIKSSON, S., "Mammalian Deoxyribonuleoside Kinases," <i>Pharmacol. Ther.</i> 67:155-186, Elsevier Science Ltd. (1995)		
	AZ	ATIQ, O., et al., "Treatment of Unresectable Primary Liver Cancer with Intrahepatic Fluorodeoxyuridine and Mitomycin C Threugh an Implantable Pump," Cancer 69:920-924, John Wiley and Sons, Inc. (1992)		
	ва	AUBERSON, Y., et al., "N-Phosphonoalkyl-5-Aminomethylquinoxaline-2,3-Diones: In Vivo Active AMPA and NMDA-(Glycine) Antagonists," Bioorg. Med. Chem. Lett. 9:249-254, Elsevier Science Ltd. (1999)		
	ВВ	BALTHAZOR, T. and Grabiak, R.C., "Nickel-Catalyzed Arbuzov Reaction: Mechanistic Observations," J. Org. Chem. 45:5425-5426, American Chemical Society (1980)		
	вс	BEAUCAGE, S.L. and Iyer, R.P., "The Synthesis of Modified Oligonucleotides by the Phosphoramidite Approach and Their Applications," <i>Tetrahedron</i> 49:6123-6194, Pergamon Press Ltd. (1993)		
	BD	BESPALOV, A., et al., "Prolongation of morphine analgesia by competitive NMDA receptor antagonist D-CPPene (SDZ EAA 494) in rats," Eur. J. Pharmacol. 351:299-305, Elsevier Science B.V. (1998)		
	BE	BIRD, J., et al., "Synthesis of Novel N-Phosphonoalkyl Dipeptide Inhibitors of Human Collagenase," J. Med. Chem. 37:158-169, American Chemical Society (1994)		
V	BF	BORCH, R.F. and Millard, J.A., "The Mechanism of Activation of 4- Hydroxycyclophosphamide," <i>J. Med. Chem.</i> 30:427-431, American Chemical Society (1987)		

Examiner		Date	
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ST			Art Unit	1626					
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She	et	2	of	10	Attorney Docket Number	r 2358.0180003/RWE/AES			
BRILL, T. and Landon, S.J., "A Phosphite Complexes," Chem CAMPAGNE, JM., et al., "Sy				hite Complexes," (AGNE, JM., et al BOP or PyBOP Re	Chem. Rev. 84:577-585, Am ., "Synthesis of Mixed Phosp	on Reactions of Transition-Metal- erican Chemical Society (1984) Ohate Diester Analogues of Dipeptides 4:6743-6744, Pergamon Press Ltd.	6		
Ì		ВІ		BELL, D.A., "The S	Synthesis of Phosphonate E 57:6331-6335, American Ch	sters, an Extension of the Mitsunobu emical Society (1992)			
		BJ	Nucleo		as Inhibitors of Reverse Tra	uoromethyl Phosphonates of nscriptase," <i>Bioorg. Med. Chem. Lett</i> .			
		вк		osphonate Rearra		Effects in the Aryl Phosphate to -693, Georg Thieme Verlag KG			
		BL	Effect a Com	of Oxazaphosphor bined Chemothera	ines following Cytochrome I	n and Enhanced Chemotherapeutic 2-450 Gene Transfer: Development of strategy," <i>Cancer Res.</i> 55:581-589, 15)			
		вм	Ifosfan	CHEN, L., et al., "Sensitization of Human Breast Cancer Cells to Cyclophosphamide and Ifosfamide by Transfer of a Liver Cytochrome P450 Gene," Cancer Res. 56:1331-1340, The American Association for Cancer Research (1996)					
		BN	chemis Oxathi	COOPER, D.B., et al., "Use of Carbohydrate Derivatives for Studies of Phosphorus Stereo-chemistry. Part II. Synthesis and Configurational Assignments of 1,-3,2-Oxathiaphosphrinan-2-ones and 1,3,2-Dioxaphosphorinan-2-thiones," J. Chem. Soc. Perkin I 3/2422:1049-1052, Royal Society of Chemistry (1974)					
		во	compo	DEARFIELD, K., et al., "Analysis of the genotoxicity of nine acrylate/methacrylate compounds in L5178Y mouse lymphoma cells," Mutagenesis 4:381-393, Oxford University Press (1989)					
		ВР		DE CLERCQ, E., et al., "A novel selective broad-spectrum anti-DNA virus agent," Nature 323:464-467, Nature Publishing Group (1986)					
$\lceil \cdot \rceil$		BQ	Neutra	al Endopeptidase 2	ol., "Pharmacological Profile 24.11 and Endothelin-Conve 412, Academic Press, Inc. (of a Non-Peptidic Dual Inhibitor of rting Enzyme," <i>Biochem. Biophys.</i> 1994)			

Examiner Signature	T. A. Solal	Date Considered 1	-3/-0/
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		Art Unit	1626			
	Ose as mai		Examiner Name	Taofiq A. Solola		
Sheet	3	of 10	Attorney Docket Number	2358.0180003/RWE/AES		
40	BR	DE LOMBAERT, S., et al., "I Prodrugs, a New Generation Med. Chem. 37:498-511, An	of Neutral Endopeptidase ((NEP, EC 3.4.24.11) Inhibitors," J.		
BS DESOS, P., et al., "Structure-Activity Relationships in a Series of 2(1H)-Quinol Bearing Different Acidic Function in the 3-Position: 6,7-Dichloro-2(1H)-oxoquin phosphonic Acid, a New Potent and Selective AMPA/Kainate Antagonist with Neuroprotective Properties," J. Med. Chem. 39:197-206, American Chemical S (1996)						
	вт	Transferases in Rat and Hui	man Hepatic and Extrahepa	Epoxide Hydrolase and Glutathione tic Tissues," <i>J. Pharm. Exp. Ther.</i> Experimental Therapeutics (1990)		
	BU DICKSON, J.K., et al., "Orally Active Squalene Synthase Inhibitors: Bis((acyloxy)alkyl) Prodrugs of the α-Phosphonosulfonic Acid Moiety," J. Med. Chem. 39:661-664, American Chemical Society (1996)					
	BV	ENRIQUEZ, P., et al., *Conj Arabinogalactan: Synthesis, 6:195-202, American Chemi	Characterization, and Antiv	side 5'-Monophosphate to viral Activity," <i>Bioconjugate Chem.</i>		
	вw	3A-Activated Prodrugs (Hep	Direct Prodrugs) Useful for	tion of a Series of Cytochrome P ₄₅₀ Targeting Phosph(on)ate-Based American Chemical Society (April		
	вх	ERION, M., et al., "HepDired Liver," Hepatology 36:301A 2002)	ct TM Prodrugs: A Novel Straf , AASLD Abstract No. 551,	tegy for Targeting Drugs to the John Wiley & Sons, Inc. (October		
	вү	ERION, M., et al., "Liver-Targeted Drug Delivery Using HepDirect Prodrugs" J. Pharmacol. Exper. Ther. 312:554-560, American Society for Pharmacology and Experimental Therapeutics (February 2005)				
	BZ	ERION, M., "Liver-Targeted Nucleoside Prodrugs," presented at the Gordon Research Conference: Purines, Pyrimidines and Related Substances, Newport, RI, 38 pages (June-July 2003)				
	CA	FARQUHAR, D., et al., *Bio 1,3,2-Dioxaphosphorinanes Tetrahedron Lett. 36:655-65	as Neutral Latent Precurso	ate Protective Groups: 4-Acyloxy- rs of Dianionic Phosphates," 995)		
	СВ	FARQUHAR, D., et al., "Bio Sci. 72:324-325, American		ate-Protective Groups," J. Pharm.		

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Sheet	4	of	10	Attorney Docket Number	r 2358.0180003/RWE/AES		
FARQUHAR, D., et al., "Synth				onophosphate (FdUMP): A	aluation of Bis[(pivaloyloxy) methyl] 2'- A Strategy to Introduce Nucleotides Chemical Society (1994)		
	CD	oxazar dioxap Arabin	phosphorinan-2-yl)- $oldsymbol{eta}$ -hosphorinan-2-yl)- $oldsymbol{eta}$ -	-D-arabinosyl]adenine and D-arabinosyl]adenine: Pot	luation of 9-[5'-(2-Oxo-1,3,2- I 9-[5'-(2-Oxo-1,3,2- ential Neutral Precursors of 9-[β-D- d. Chem. 28:1358-1361, American		
	CE	fluorou	ridine: A Membrane-		aphosphorinan-2-yl]-2'-deoxy-5- Fluoro-2'-deoxyuridylic Acid emical Society (1995)		
	CF	Fluoro		othesis and Biological Evaluation of Neutral Derivatives of 5- cosphate," <i>J. Med. Chem.</i> 26:1153-1158, American Chemical			
	FIUME, L., et al., *Inhibition of Hepatitis B Virus Replication by Vidarabine Monoph Conjugated with Lactosaminated Serum Albumin,* The Lancet 2:13-15, The Lancet Publishing Group (1988)						
	СН	Deoxy	ribonucleotides as E	nce for Acyloxymethyl Est xtracellular Sources of Ac Pharm. 38:3193-3198, Els	tive 5'-Deoxyribonucleotides in		
	CI	lipophi maskir	lic α-acyloxyalkyl est	er derivatives of phospha	ates and phosphonates: Novel le- or phosphonate containing drugs J. Pharm. Sci. 4:49-59, Elsevier		
FUJII, A., et al., "Ruthenium(II)-Catalyzed Asymmetric Transfer Hydrogenation Using a Formic Acid-Triethylamine Mixture," J. Am. Chem. Soc. 118:2521-252 Chemical Society (1996)							
GUIDA, W.C., et al., "Structure-Based Design of Inhibitors of Purine Nucleosi Phosphorylase. 4. A Study of Phosphate Mimics," J. Med. Chem. 37:1109-1 American Chemical Society (1994)							
	CL				by Bergamottin, a Component of American Chemical Society (1998)		
	СМ	HESSI 41:182	LER, "An Efficient Sy 28-1831 (1976)	rnthesis of 1-ß-D-Arabinot	uranosylcytosine," J. Org. Chem.		

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40	CN	(1,4-dil	hydroxy-2-pentyl)		polynucleotides. VI. Phosphates of 1- 2-propyl) uracil," Chemical Abstracts		
	со	angiot	ensin I converti	, "Structure and conformati ng enzyme - a tripeptide cc :20-24, Blackwell Publishin	ontaining phosphonic acid," Int. J.		
	СР	Phosp	hotriesters Deri		Properties of Some Cyclic puridine," J. Med. Chem. 27:440-		
	CQ KEENAN, R., et al., "Pathology Reevaluation of the Kociba et al. (1978) Bioassay of 2,3,7,8-TCDD: Implications for Risk Assessment," J. Tox. Envir. Health 34:279-296, Hemisphere Publishing Corporation (1991)						
	CR	KELLEY, J.L., et al., "[[(Guaninylalkyl)phosphinico]methyl]phosphonic Acids. Multisubstrate Analogue Inhibitors of Human Erythrocyte Purine Nucleoside Phosphorylase," J. Med. Chem. 38:1005-1014, American Chemical Society (1995)					
	cs			ence, P.F., "Neighboring Group Med. Chem. 39:4109-4115, A	p Catalysis in the Design of American Chemical Society (1996)		
	СТ	Forma	tion of Properties		ne General Observations on the bered Cyclic Phosphate Esters," J. ciety (1957)		
KORBA, B.A., et al., "Liver-Targeted Antiviral Nucleosides: En Phosphatidyl-Dideoxyguanosine Versus Dideoxyguanosine in Infection In Vivo," Hepatology 23:958-963, John Wiley & Son					nosine in Woodchuck Hepatitis Virus		
CV Containing Phosphorus Acids				Acids," Bull. Acad. Sci. USSF	"Influence of Solvent on the Strength of Cyclic Oxygen- ids," Bull. Acad. Sci. USSR, A translation of Izvestiya Akademii i:1145-1148, Consultants Bureau (1987)		
CW LEFEBVRE, I., et al., "Mononucleoside Pho Bioreversible Phosphate-Protecting Groups dideoxythymidine 5'-Monophosphate," J. M. Society (1995)					lular Delivery of 3'-Azido-2',3'-		
1	LOK, A.S.F., et al., "Neurotoxicity associated with adenine arabinoside monophosphate in the treatment of chronic hepatitis B virus infection," J. Antimicrob. Chemotherap. 14:93-99, Oxford University Press (1984)						

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Yo	CY	LU, X. and Zhu, J., "Palla O,O-Dialkyl Phosphonate	dium-Catalyzed Reaction of Als, "Synthesis (8):726-727, Geo	ryl Polyfluoroalkanesulfonates with org Thieme Verlag (1987)				
	CZ	Analogues. 4. Preparation "Phenylketophosphamide	LUDEMAN, S.M., et al., "Synthesis and Antitumor Activity of Cyclophosphamide Analogues. 4. Preparation, Kinetic Studies, and Anticancer Screening of "Phenylketophosphamide" and Similar Compounds Related to the Cyclophosphamide Metabolite Aldophosphamide," J. Med. Chem. 29:716-727, American Chemical Society (1986)					
	DA	MACKENNA, D., et al., "MB07133: A HepDirect TM Prodrug of Cytarabine Monophosphate for Use in Hepatocellular Carcinoma,", Heptaology 38(Suppl. 1):411A, AASLD Abstract No. 524, John Wiley & Sons, Inc. (October 2003)						
	DB	MCGUIGAN, C., et al., "Intracellular Delivery of Bioactive AZT Nucleotides by Aryl Phosphate Derivatives of AZT," J. Med. Chem. 36:1048-1052, American Chemical Society (1993)						
	DC	MCGUIGAN, C., et al., "Kinase Bypass: A New Strategy for Anti-HIV Drug Design," Bioorg. Med. Chem. Lett. 3:1207-1210, Pergamon Press Ltd. (1993)						
	DD	didehydrothymidine (d4T	MEIER, C., et al., "Cyclic Saligenyl Phosphotriesters of 2',3'-Dideoxy-2',3'-didehydrothymidine (d4T) - A New Pro-Nucleotide Approach -" Bioorg. Med. Chem. Lett. 7:99-104, Elsevier Science Ltd. (1997)					
	DE	Drugs: Implications for H	MEIJER, D.K.F. and van der Sluijs, P., "Covalent and Noncovalent Protein Binding of Drugs: Implications for Hepatic Clearance, Storage, and Cell-Specific Drug Delivery," Pharm. Res. 6:105-118, Plenum Publishing Corporation (1989)					
	DF	MELVIN, L.S., "An Efficient Synthesis of 2-Hydroxyphenylphosphonates" <i>Tetrahedron Lett.</i> 22:3375-3376, Pergamon Press Ltd. (1981)						
	DG	MEYER, R., et al., "2'-O- Thioinosinic Acid," J. Me	YER, R., et al., "2'-O-Acyl-6-thioinosine Cyclic 3',5'-Phosphates as Prodrugs of binosinic Acid," <i>J. Med. Chem. 22</i> :811-815, American Chemical Society (1979)					
	DH	Di(4-acyloxybenzyl) and	I., "Bioreversible Protection for the Phospho Group: Bioactivation of the and Mono(4-acyloxybenzyl) Phosphoesters of Methylphosphonate and J. Chem. Soc. Perkin Trans. 1, 2345-2353, Royal Society of Chemistry					
	DI	MITSUNOBU, O., "The U Synthesis and Transform Verlag (1981)	MITSUNOBU, O., "The Use of Diethyl Azodicarboxylate and Triphenylphosphine in Synthesis and Transformation of Natural Products," Synthesis (1):1-28, Georg Thieme					

Examiner Signature	T.A. Solo/a	Date Considered	1-31-06
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				First Named Inventor	K. Raja Reddy	_	
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01				Examiner Name	Taofiq A. Solola		
Sheet	7	of	10	Attorney Docket Number	. <u> </u>	_	
40	DJ	Distribu State in	ition, the Liver Targi	eting of MB07133 and CYP	eatment on CYP3A Activity 3A Activity in a Highly Proliferating Abstract No. 1123, John Wiley &		
	DK	the hgp		lard and suspension CHO a	ts for nine compounds evaluated at ssays," <i>Mutagenesis</i> 6:77-85,		
	DL	MURRA Cancer	AY, G., <i>et al.,</i> "Cytoo 79:1836-1842, Nat	chrome P450 CYP3A in hur ure Publishing Group (1999	man renal cell cancer," <i>Brit. J.</i>		
DM MURRAY, G., et al., "Cytoch Tissue Sarcomas," J. Pathol					a Common Molecular Event in Soft y & Sons, Ltd. (1993)		
	DN			son, W.J., "A Highly Enantioselective Synthesis of Phosphate c. 112:6936-6942, American Chemical Society (1990)			
	NEIDLEIN, R., et al., "Mild Preparation of 1-Benzyloxyiminoalkylphosphonic Dichlorides: Application to the Synthesis of Cyclic Phosphonic Deisters and Cyclic Monoester Amides," Heterocycles 35:1185-1203, Elsevier Science (1993)						
	NIFANTYEV, E.E., et al., "Synthesis and Structure of Some Stable Phospholane-Phospholanes," Phosphorus, Sulfur and Silicon 113:1-13, Overseas Publishers Association (1996)						
	DQ	xenobi	M., et al., "A reporte otic-dependent indu aylor & Francis Ltd.	gene assay to assess the molecular mechanisms of tion of the human CYP3A4 gene in vitro," Xenobiotica 29:269-1999)			
				esis of Phosphonosphingoglycolipid Found in Marine Snail <u>Turbo</u> ft. 29:1189-1192, Pergamon Press plc (1988)			
	DS	Derive (Dietho	d from Tyrosine-Cor exyphosphinyl)phen	ushan, T.L., "Palladium-Catalyzed Substitutions of Triflates taining Peptides and Simpler Hydroxyarenes Forming 4-lalanines and Diethyl Arylphosphonates," <i>J. Am. Chem. Soc.</i> Chemical Society (1987)			
	DT PITCHER, H.R., "Built-in Bypass," Nature 429:39, Nature Publishing Group (Ma						

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			Application Number	10/698,924			
		LEMENTAL	Filing Date	October 31, 2003			
		N DISCLOSURE	First Named Inventor	K. Raja Reddy			
STATE		BY APPLICANT	Art Unit	1626			
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Sheet	8	of 10	Attorney Docket Number	2358.0180003/RWE/AES			
Yo	DU	USSR, A Translation of Zhur (1977)	. Org. Khim. 13:1489-1492,	ylene Phosphates," J. Org. Chem. Plenum Publishing Corporation			
	DV	Glycerol Alkylene Phosphites Phosphatidylhydroxyhomoch Khim. 17:1156-1165, Plenur	s. V. Cyclic Phosphatidylgly oline," J. Org. Chem. USSF	R, A Translation of Zhur. Org.			
	DW	REDDY, K.R., et al., "Stereo prodrugs," Tetrahedron Lett.	selective synthesis of nuclear 46:4321-4324, Elsevier Ltd	oside monophosphate HepDirect TM . (2005)			
	DX		the Calculation of Relative	anics-Based Free-Energy Solvation Free Energies," <i>J. Am.</i> (published online April 2004)			
	DY	REDMORE, D., "Phosphorus Acid Derivatives," J. Org. Ch	s Derivatives of Nitrogen He em. 35:4114-4117, America	terocycles. 2. Pyridinophosphonic in Chemical Society (1970)			
	DZ	RUIZ VAN HAPEREN, V.W. Difluorodeoxycytidine in the (Suppl. 11):35-41, W.B. Sau	Human Ovarian Cancer Cel	stance to 2'-2'- I Line A2780," Semin. Oncol. 22			
	EA		SHAW, JP. and Cundy, K.C., "Biological Screens of PMEA Prodrugs," <i>Pharm. Res.</i> 10:S-294, Kluwer Academic Publishers B.V., Abstract No. PDD 7480 (1993)				
	EB	SHEN, T.Y., et al., "Nucleosides I. A New Synthesis of 1-β-D-Arabinofuranosyl Pyrimidine Nucleosides," J. Org. Chem. 30:835-838, American Chemical Society (1965)					
	EC	SHIH, YE., et al., "Preparation and Structures of 2-Dimethylamino-4-phenyl-1,3,2-dioxaphosphorinane-2-oxides," <i>Bull. Inst. Chem. Acad. Sin. 41</i> :9-16, Academia Sinica, Nankang, Taipel, Taiwan (1994)					
	ED	SHIRAI, R., et al., "Asymmetric Synthesis of Antimitotic Combretadioxolane with Potent Antitumor Activity Against Multi-Drug Resistant Cells," <i>Bioorg. Med. Chem. Lett.</i> 8:1997-2000, Elsevier Science Ltd. (1998)					
	EE	STARRETT, Jr., J.E., et al., "Synthesis, Oral Bioavailability Determination, and in Vitro Evaluation of Prodrugs of the Antiviral Agent 9-[2-(Phosphonomethoxy)ethyl]adenine (PMEA)," J. Med. Chem. 37:1857-1864, American Chemical Society (1994)					

Examiner Signature	T. A. Sola	Date Considered	1-31-06

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Y	D	EF	acyloxy	ybenzyl) and Mon	o(4-acyloxybenz	yl) Esters of the	nti-HIV Activity of the Bis(4- he 5'-monophosphate of AZT," J. of Chemistry (1993)	
		EG	VALEN Phosph	NTINE, Jr., D., "Prohorus Centers," <i>A</i>	eparation of the symmetric Synth	Enantiomers on esis 4:263-31	of Compounds Containing Chiral 2, Academic Press, Inc. (1984)	
		ЕН	VENO	OK, A., "Treatmer <i>12</i> :1323-1334, Ar	nt of Hepatocellu merican Society	lar Carcinoma of Clinical On	n: Too Many Options?," <i>J. Clin.</i> cology (1994)	
		EI	Racem		e:D-Alanine Liga		nic Acid, an Inhibitor of Alanine Chem. 29:579-581, American	
		EJ .		WAGNER, A., et al., "Direct Conversion of Tetrahydropyranylated Alcohols to the Corresponding Bromides," <i>Tetrahedron Lett.</i> 30:557-558, Pergamon Press plc (1989)				
		EK	Endoth	ACE, E.M., et al., nelin-Converting E y (1998)	"Design and Syr nzyme," J. Med	nthesis of Pote	ent, Selective Inhibitors of 13-1523, American Chemical	
		EL	Resins	WALSH, E., et al., "Phenoxymethylphosphonic Acids and Phosphonic Acid Ion-exchange Resins," Phenoxymethylphosphonic Acid Ion-Exchange Resins 78:4455-4458, American Chemical Society (1956)				
		EM		WATKINS, P., "Noninvasive tests of CYP3A enzymes," <i>Pharmacogenetics 4</i> :171-184, Lippincott Williams & Wilkins (1994)				
		EN	WEBER, G.F. and Waxman, D.J., "Activation of the Anti-cancer Drug Ifosphamide by Rat Liver Microsomal P450 Enzymes," <i>Biochem. Pharm.</i> 45:1685-1694, Pergamon Press Ltd. (1993)					
		EO	WECH	WECHTER, W.J., et al., "Nucleic Acids. 16. Orally Active Derivatives of ara-Cytidine ^{1,2} ," J. Med. Chem. 19:1013-1017, American Chemical Society (1976)				
	V	EP	WEIBEL, M., et al., "Potentiating Effect of {2-[2-[(2-Amino-1,6-Dihydro-6-Oxo-9H-Purin-9-yl)Methyl]-Phenyl] Ethenyl}-Phosphonic Acid (MDL 74,428), A Potent Inhibitor of Purine Nucleoside Phosphorylase, on the Antiretroviral Activities of 2',3'-Dideoxyinosine Combined to Ribavirin in Mice," Biochem. Pharmacol. 48:245-252, Elsevier Science Ltd. (1994)					

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Yo	EQ			MAN, T., et al., "Recept (1985)	tor-mediated endocytosis," <i>Bio</i>	chem. J. 232:1-14, Portland		
	ER		YU, L. J., et al., "In vivo Modulation of Alternative Pathways of P-450-Catalyzed Cyclophosphamide Metabolism: Impact on Pharmacokinetics and Antitumor Activity," J. Pharmacol. Exp. Ther. 288:928-937, The American Society for Pharmacology and Experimental Therapeutics (1999)					
	ES		ZON, G., "Cyclophosphamide Analogues" in <i>Progress in Medicinal Chemistry</i> , Ellis, G.P., et al., eds., Elsevier Biomedical Press, Chapter 4, pp. 205-246 (1982)					
	ET		ZON, G., et al., "NMR Spectroscopic Studies of Intermediary Metabolites of Cyclophosphamide. A Comprehensive Kinetic Analysis of the Interconversion of cis-and trans-4-Hydroxycyclophosphamide with Aldophosphamide and the Concomitant Partitioning of Aldophosphamide between Irreversible Fragmentation and Reversible Conjugation Pathways." J. Med. Chem. 27:466-485, American Chemical Society (1984)					
	EU		Interna	ational Search Report 1 ean Patent Office, Netl	for related International Applica herlands, mailed May 11, 2004	Not a prior out		
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